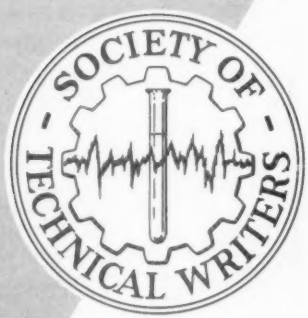
TECHNICAL WRITING REVIEW



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TECHNICAL WRITING REVIEW

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Writing an Industrial Bulletin

By Alan A. Smith
Editor, Industrial Bulletin
Arthur D. Little, Inc.
Cambridge, Massachusetts

Alan A. Smith

Scientific reporting can be a challenge. The educated layman wants to know about new developments in technology, but he prefers to take his information in small doses. Technical writing for a lay audience must therefore be brief, but it must still be clear and accurate. Moreover, if the word "educated" really suits the intended audience, the text should not be written down; on the other hand, jargon should be avoided.

The INDUSTRIAL BULLETIN of Arthur D. Little, Inc. is a four-page publication devoted, since its inception in 1927, to reporting new trends in technology. Each issue carries, on the average, four articles of about 1000 words each. Brevity is an obvious must for every article, but following established editorial policy, general interest, accuracy and style are equally important. How these various aims are realized makes an interesting story.

FREE CHOICE OF SUBJECTS

First, as to subject matter, the Editor is given almost complete freedom of choice (surely the dream of many a technical editor). Articles reflect the interests of the company staff of over 400 professional men, active in almost all fields of engineering. But subject matter may also come from non-company activities; the only requirements are that it be interesting and significant in the pattern of current technology. A special point must be made here. The INDUSTRIAL BULLETIN is not a "house organ" in the customary sense; it carries no advertising, beyond what is inherent in the title, and it is not concerned with company developments unless they are truly newsworthy. But the business of the company is consulting engineering, or as one intensely-written plug puts it, "organized creative technology." So choice of BULLETIN content is a matter of determining what's new anywhere in the realm of technology — new, of potential industrial significance, and of interest to the predominantly nontechnical audience of business executives.

To draw reader interest, two hoary devices of journalism are used: (1) The capsule or "tell 'em what you're gonna tell 'em" first sentence, and (2) the eye-catching headline. In this otherwise sedate publication, the titles are usually moderately humorous. To illustrate, a recent article on recovery of offshore mineral deposits was entitled "Bottoms Up"; one on commercial broiler raising was called "Fowling Piece"; and one dealing with the synthesis of diamonds was called "Gemesis." In many other cases, titles are played straight, within the self-imposed limitation that no title shall ever be repeated. But the eye-catchers have stimulated very favorable reader response, and it keeps the

editor and his more picaresque associates busy trying to be clever.

Writing of BULLETIN articles is assigned to staff members best acquainted with the subject matter at hand. Theoretically, a two-month lead time is allowed — one month for preparation, since staff members are otherwise gainfully occupied, and one month for the checking, editorial and proofing stages. Very rough first drafts are requested, because the space limitations of the BULLETIN are severe, and it has proved less offensive to sensitive authors to compress their rough work than to pare what they may consider as a chef d'oeuvre. Initial drafts are edited as to organization (continuity and logical sequence of thought), style and rough length; this first revision is done by a nontechnical staff writer, who serves as an effective low-pass filter for jargon. The revision is then checked by the Editor, who is technically trained, and who may modify the second draft substantially.

COMMENTS SOUGHT

As the next step, the modified draft is returned to the author for his agreement on technical points; editorial enthusiasm is frequently no respecter of facts! Then, copies of this draft — changed again if necessary — are sent to independent authorities in the field, for their comments. Whenever possible, the outside checkers are chosen to include differing points of view, so that the final article will represent a consensus. Checkers' comments are correlated in a master draft, and any differences of opinion are settled by the Editor, either through further contact with the checkers, or through knowledge available on the staff.

Final editing of BULLETIN material is applied to the master draft, with all checkers' comments in hand. At this stage, with technical accuracy assured, style is the major consideration. The final copy is converted to galley proof, and then via page dummy to page proof. In each of these stages, the copy is carefully proofed by the printer, the Editor's assistant and the Editor.

Question: Is it worth it? Well, editorially speaking, we have been greatly pleased by the favorable reception accorded the BULLETIN. We believe that a major point in its favor is its brevity — busy executives are willing to read it. We gather that they do so with pleasure and find it a useful source of technical information. It is our job to ensure that the information is well presented and accurate, and we enjoy our job.

Combined Convention Planned

A joint 1956 National Convention of the Society of Technical Writers and the Association of Technical Writers and Editors will be held on November 15 and 16 at the Hotel Statler, New York City.

The program committee, consisting of Floyd A. Hickok, Boston Chapter, Chairman; Jack Bates, Chicago Chapter; Harold Schleich, New York Chapter; Robert R. Rathbone, Boston Chapter; and Dr. I. Light, Bethesda, Maryland, has made considerable progress in the exploratory phase of program planning. The general opinion is that a program modeled after the one held last year is desirable. There is the possibility that some innovations such as a resolutions session or a "spectacular" session may be introduced. There seems to be the desire for as much personal participation by the membership as possible, and for the program to give the membership something solid to take back with them as advancements in their profession. The program committee is trying to prepare this type of an event.

Four to six speakers for the general sessions will be required. All STW members are urged to suggest names of suggested speakers to the Program Committee.

Joint sponsorship of the 1956 National Convention means that a combined Program Committee of members from both sponsoring societies will be required. Steps are being taken now to bring about this integration of the efforts of both societies.

New Specification for Electronics Technical Manuals

by Leverett A. Meadows
Head, Electronics Publications Section
Bureau of Ships
Navy Department
Washington, D. C.

The Bureau of Ships has devoted several years of planning to revising specification 16B16 into a new specification that has been identified as MIL-M-16616. In view of current trends, several factors were considered before the new specification was written. The most important were:

- To what extent can we standardize on the requirements of other agencies?
- In what way can we improve our present manuals?
- How can we reduce cost without reducing effectiveness?
- What steps can be taken to clarify the requirements of the specification and make it more convenient to use?

This article will deal primarily with technical manuals for standard use equipment. Manuals for equipment in other categories have less rigid requirements. For example, manuals for "service-test" equipment must include all the information required for standard use equipment, and be written to the level of understanding of the electronics technician, but to reduce cost, illustrations need not be repeated and may even by omitted if the text clearly conveys the intended picture. Typewritten copy and neat free-hand illustrations may be used, and any method of reproduction that is clear and legible is acceptable. Manuals covering "experimental equipment" require less information and the level of understanding is to be that of the engineer familiar with the particular type of equipment. Manuals for "commercial" or "stop-gap" equipment are to consist of a previously published manual, plus a supplement to provide the missing information.

Leverett A. Meadows

Now that MIL-STD-218 "Military Standard for Technical Manuals" is a reality, more and more people are asking such questions as, "Why should each of the military departments have different specifications for technical manuals?" and "Why can't technical manuals prepared for one department be understood and be used by another?" These questions would not be asked so often if the military mission of the various services were better understood. Assuming that it will not be practical to provide for the needs of all military departments in a single type of technical manual, there is still a large field of standardization that can be effected. Many of the requirements of the new specification have been taken from other specifications. In fact, wherever possible, the actual wording of the other specifica-

tion has been used. One example is the method of identifying major, secondary, and minor test points. Another is the procedure for trouble shooting, based on signal tracing techniques.

IMPROVING PRESENT MANUALS

The new specification establishes the training level of technical manuals for "experimental" equipment to be that of an engineer. However, technical manuals for "service-test" equipment and "standard use" equipment must be written to the level of understanding of the Electronics Technician, second class (ET2). To aid in determining this level, a set of the *Electricity-Electronics Training Series* used in Navy Class A schools has been sent to all Inspectors of Naval Material. Copies of individual volumes of this training series, or the entire set, may be examined in the Inspector's office, or if desired, they will be issued to contractors and subcontractors for the duration of the need. Publications which provide information concerning the training and qualifications of Navy Electronics Technicians 2nd, will be supplied upon request to the Government Inspector.

The new specification establishes several new section titles. *General Description* has been changed to *General Information,* because an elaborate description of major units is no longer to appear in this section. Descriptive information of major units needed for proper installation, operation, or maintenance is now required to appear in the appropriate section. *Theory of Operation* has been changed to *Principles of Operation,* partially for psychological reasons to influence the writer and the reader, and partially because the section is now to be written to the level of the ET2, rather than the engineer. This section has been relocated and now precedes the corrective maintenance sections, so that it may be bound in the same volume with these sections when the manual is too large to be included in a single binder. To avoid additional subparagraphing, the old title *Corrective Maintenance* has been divided into two new sections, *Trouble Shooting* and *Repair.*

Several years ago, the Bureau embarked on a program to provide the fleet with *Performance Standards Books* and *Maintenance Check-Off Books* for all standard electronic equipment. This program has been commonly referred to as the *POMSEE program* (*P*erformance *O*peration *M*aintenance *S*tandards *E*lectronic *E*quipment).

Performance Standards Books provide the technician with detailed procedures so that he can determine how close to its optimum performance an equipment is operating. Maintenance Check-Off Books indicate exactly what preventive maintenance is to be done, and include blocks for recording the observed data and maintenance action for a one-year period. Manuals written to the new specification have been coordinated with the POMSEE program in that the *Principles of Operation* section explains the principles under which the entire equipment and each major unit (or functional section) operates; the *Trouble Shooting* section provides a simple system of indicating what functional section is not performing properly, and of isolating the particular faulty part. Information concerning minimum acceptable standards and preventive maintenance is to be omitted when *Performance Standards Books* and *Maintenance Standards Books* are either available or are required under the same contract or order.

Trouble shooting methods are to be based on principles of signal tracing techniques rather than on symptoms of possible troubles. Thus, the manual can be written prior to the delivery of the first equipment, based on an analysis of the circuit or functional mechanical assembly. Whenever possible, test methods for equipment procured by the Bureau of Ships are to conform to those established in the Handbook of Test Methods and Practices (NAVSHIPS 91828), using test equipments available in the fleet, as listed in Test Equipment Application Guide (NAVSHIPS 91727). Copies of these publications are available to contractors and sub-contractors through the cognizant Government Inspector for the duration of the need.

The method used by the Bureau of Aeronautics and the Air Force to identify major, secondary, and minor test points has been standardized; for example, a number in a star for major test points, a letter in a circle for secondary test points, and a letter followed by a number in a circle for minor test points. These identifications are to appear on schematic diagrams, actual illustrations of the units, and in trouble shooting charts.

All schematics and wiring diagrams which include more than 100 parts must include "road-map" coordinates, and provide a means for locating the circuit elements on the apron. Schematics that are too large to be included on the maximum allowable size sheet (11" x 28" plus apron), must be divided into sections, with each section being reproduced on each side of the sheet. This will provide continuity between sections of the complete diagram. The apron of each sheet must include a complete list of the circuit elements that appear on the entire diagram, and a means of quickly locating them.

The new specification requires manuals to include

cross references between elements and other maintenance parts, and the figure number of a pictorial illustration which calls out the part, either in the Locating Function column of the *Maintenance Parts List,* or in a separate table in the *Trouble Shooting Section.* This information should prove especially helpful to the ET in finding the physical location of a part, after he has determined from the schematic diagrams which part is likely to be at fault.

Another new requirement is an introduction to the *Parts List* section. This introduction provides an explanation of the use of the various tables and an explanation of the notes referenced therein.

The method of numbering paragraphs has been modified to the extent that main paragraphs are to be preceded by the section number and a hyphen. Thus, it will not be necessary to reference the section when referring to a paragraph.

REDUCING COST

Less expensive paper and cover stock have proved to be satisfactory for normal service use. Therefore, more costly wet-strength qualities are no longer required unless coated materials are used.

Blank covers (except for applicable security markings) may be used for manuals for experimental and service-test equipments, provided the publication number and complete title appear through a window on the cover.

It is known that many design changes are usually made to an equipment during the time required to obtain Bureau approval and to have the manuals printed. Therefore, if there is insufficient time to obtain Bureau approval and final printed copies, the new specification permits the use of a Grade B (manuscript form), Inspector-approved manual and requires that these manuals be replaced within 60 days after Bureau approval is received. This method requires considerably less time for production and makes it possible to supply more accurate manuals, since the manuals may be approved section-by-section.

The old specification required a complete instruction book, and separate Installation, Operation, Maintenance, and Spare Parts Handbooks when the instruction book was too large for effective handling. This requirement has been eliminated by merely requiring large manuals to be subdivided into separate functional volumes.

The new specification still requires that all circuit elements and other maintenance parts be indentified on illustrations that appear in the manual. However, such parts need not be called out in photographs if the wiring diagrams are of the pictorial type and illustrate the various parts in their approximate location.

Winding data, characteristics of electron tubes, extensive test procedures now published in the Handbook of Test Methods and Practices, and certain other items have been eliminated from technical manual requirements because the cost does not justify their inclusion.

Every effort has been made to simplify the preparation of the parts list section, and to reduce its size. The tables dealing with the spare parts boxes have been eliminated. The "List of Major Units" is not required unless the equipment includes at least ten major units. The "Combined Parts and Spare Parts List" has been simplified by removing the stock numbers and placing them in another simple table; by omitting the "All Symbol Desig. Involved" column; by permitting the use of reference codes to represent the many repetitive notes required to provide support information, indicate differences in models, etc. (with the actual notes appearing in the introduction to the section); and by combining the remaining data into four columns. To avoid duplication, these columns are the same as the first four columns of the provisioning list, which is used for determining spare parts requirements. In fact, no additional editorial work is required if this portion of the provisioning list is complete and includes a complete "short form" description for items that require no description in the provisioning list (such as capacitors, resistors, etc., which are identified by JAN designations). Spare parts information is no longer required unless spares are supplied in permanent reusable spare parts boxes or maintenance parts trailers which do not include parts lists adequately locating the parts by reference designations. The "Cross Reference Parts List" is limited to stock numbers, and is not required when less than 100 parts of the equipment require stock numbering.

Other actions are being taken to reduce the effort required to produce adequate parts lists and to shorten parts descriptions. The "short form" description requirements of the Federal Item Identification Guides contained in NAVSHIPS 900, 181A are being reviewed to determine what information can be eliminated from technical manuals without reducing effectiveness from a maintenance standpoint. For example, information relating to test data and physical characteristics will be eliminated for expendable items, such as capacitors, resistors, etc. However, for mechanical parts, sufficient

physical description will be required to identify the item within the equipment. For non-expendable (or replaceable) items, the description will be limited to the name of the item, information relating to its functional description, reference designations of its expendable parts that appear in the manual, and typical manufacturer's identification data.

The description of parts required for adequate provisioning frequently differs from that needed for maintenance. The technician does not need to know the physical characteristics of a defective part (other than the material of parts he may be expected to fabricate) because he has the part itself to examine. This is not the case in provisioning. On the other hand, the electrical characteristics are not required for parts identified by JAN designations in provisioning, but the technician will need this information. To keep editorial changes to a minimum, a new column, "Additional Description for Provisioning", is suggested for inclusion between the fourth and fifth columns of the provisioning list. If this is done, the first four columns could be used in the technical manual without additional changes.

IMPROVING THE SPECIFICATION

Specification MIL-M-16616 has been arranged in such manner that those having a specialized interest, such as contract negotiators, procurement specialists, or those responsible for the actual planning, illustrating, or publishing of the manual, can readily find the information that affects them.

The new specification, like 16B16, continues to include the content requirements for technical manuals in the format of a sample manual. However, the examples of sample illustrations and tables have been substantially increased. Sample Temporary Corrections and a sample of acceptable art work for experimental and "service test" equipment have also been included. Notes are included which point out items of particular interest to such people as planners, contracting officers, bidders, writers, illustrators, printers, or binders. Other notes indicate the importance of technical manuals, level of writing, method of identifying material, how to obtain stock numbers and nomenclature, and how to handle production changes in the equipment after the manual has been published.

The specification includes two extensive indexes, one for the specification proper, and the other for the sample manual. A visual-finder-index to help locate important items is provided on the back cover as an additional helpful feature.

With the publication of MIL-M-16616, the technical manual requirements for all Bureau of Ships standard use, service-test, experimental, commercial, and stopgap electronics equipment have been coordinated into one specification which conforms to the requirements of MIL-STD-218.

Experience based on several procurements of technical manuals under advance copies of this new specification indicates that the cost of complete performance thereunder does not vary substantially from that under 16B16. Moreover, many changes called for by the new specification can be incorporated in technical manuals being prepared under existing contracts at no additional cost to the contractor. Because of definite advantages that accrue to the Navy and the contractor, it is desired that the new specification be followed as closely as possible for all manuals. It is suggested that, as a minimum, it be followed where practicable with regard to front matter, parts lists, style of contents, printing requirements, method of revisions, and preparation for delivery.

Contractors whose contracts reference specification 16B16 are authorized to prepare technical manuals in accordance with the new specification to the extent it is possible to do so without significantly increasing or decreasing the cost of performance. Copies of the new specification are being sent to all contractors of Bureau of Ships electronic equipment.

Distaff Tech Writers

As an indication of the interest in college level training in technical writing created in the Boston area by the activities of STW and the Tufts University Workshop, members of the STW Boston Chapter Education Committee have been approached by officials of another Boston area college. An official of this college, one of the better known women's colleges in the East, is interested in the future offered to women in the technical writing profession.

P. R. Heinmiller, managing editor (left), and J. J. Raffone, associate editor, of the General Electric REVIEW, the world's largest engineering-scientific publication. Heinmiller is a mechanical engineer by education, and Raffone an electrical engineer.

Technology's Interpreter: The Technical Journalist

by P. R. Heinmiller and J. J. Raffone
General Electric Review
Schenectady, New York

The public usually associates a technical writer with instruction books and technical manuals — certainly one of his major fields. He is an indispensable link between the manufacturer of complex equipment and the user. Combining great skill with improvisation, he creates manuals that cover practically everything from installation and operation of equipment to major repairs and complete disassembly.

Another facet of technical writing — as old or older than technology itself — is less widely known to the general public. For the sake of a better name, you might call it "technical journalism."

Reader orientation distinguishes the technical journalist from the writer of instruction books. Where engineers and scientists form the technical journalist's audience, the instruction-book writer usually addresses technicians or maintenance men.

Which audience is the more difficult to write for — technologists or technicians — is debatable. Certainly the instruction-book writer's chore isn't easy. You get a good idea of how difficult when you consider some statistics from the United States Department of Defense. . .

- 45 percent of the readers of military technical manuals have less than a high school education.
- 97 percent of these readers are people who haven't graduated from college.

Perhaps these statistics supply the basis for the argument you so often hear: The best instruction-book writers are not engineers but writers with high mechanical aptitudes and interests.

Technical journalists, on the other hand, are either engineers or scientists by education. Along with their aptitude and training in technology, they possess a skill — mostly inborn — for expressing ideas with words. They may be writers, editors, or a combination of both. But, almost without exception, they have a broad concept of engineering and science that enables them to communicate effectively with engineers and scientists in all fields.

REACHING THE TECHNOLOGISTS

Today, magazines are the technical journalist's primary media. These range from privately published engineering magazines like AVIATION WEEK and MACHINE DESIGN to society journals like ELECTRICAL ENGINEERING.

Another large group, one that grows more important each day, comprises the technical magazines published by industrial corporations. Sometimes you hear these magazines referred to, somewhat misanthropically, as house organs. More accurately, they are industry-published magazines. The list of larger ones includes the General Motors ENGINEERING JOURNAL, the Westinghouse ENGINEER, the Allis-Chalmers ELECTRICAL REVIEW, the Bell System TECHNICAL JOURNAL, and the General Electric REVIEW.

A prime source of new ideas, products, methods, development, and research, magazines like these fill a definite and vital need in the technical literature.

Obviously, any industry-published magazine strives to promote good will for its company and products. Yet without detracting from this understandable objective, the magazine published by industry has taken on still another role: that of educator.

If you doubt this statement, ponder for a moment the situation confronting the United States today. Here we are in the midst of a burgeoning technology on the one hand and an acute scarcity of engineers on the other. And so, the industrial technologist finds himself increasingly occupied. New things appear all around him. Both on the job and in his leisure time, he tries constantly to keep abreast of them — even though they may not relate directly to his own field of specialization.

But how does he do this in the labyrinth of modern technology? Specialization insulates technologists from each other. This is true not only among the classical branches of engineering science — civil, mechanical, electrical, chemical, mining, and metallurgical — but also within a single field.

For instance, you might ask, when is an electrical engineer not an electrical engineer? At General Electric — a company not restricted to electric products, as you know — electrical engineers are concerned with such diverse subjects as missiles, steam turbines, locomotives, appliances, wind tunnels, insulation, and streetlighting. Only a sampling of the Company's more than 200 different pursuits, each is a field unto itself.

Consider for a moment the electrical engineer who designs equipment for wind tunnels. Chances are that he speaks of "hypersonic Mach numbers" and "boundary-layer control" with almost as much facility as the aeronautical engineer. Yet if he were asked to design a streetlighting and traffic-control system for the main street in your hometown, he would — temporarily, at least — be stumped. Although no reflection on his ability, this points up his handicap in this age of specialization.

By cutting across the barriers of specialization, the industry-published magazine informs the technologist of what is going on around him.

CASE HISTORY

The General Electric REVIEW serves a good example of such an across-the-board industry-published magazine. In terms of readership, we believe it to be the largest engineering and scientific magazine in the world. It is distributed to scientists and engineers of industrial, consulting, educational, professional society, and government groups — both domestic and foreign.

During its early years, technology had not yet become specialized. Most engineers and scientists were fairly well versed in all its phases and could appreciate a specialized article in any field. But conditions are very different today. Technology has spread to a vast number of new fields. No one can be well versed in all of them. The problem of the G-E REVIEW has become one of interpreting technological developments so that they can be understood by persons not intimately familiar with the fields in which they occur.

The G-E REVIEW cuts across all fields of specialization — something never before attempted on so large a scale by a technical magazine. In 1951 its distribution approached 80,000. Today it is 112,000. Taking into account the magazine's pass-on ratio, its actual readership is estimated at 350,000.

Where does the technical journalist fit in on the staff of a magazine like the General Electric REVIEW?

Many times he conceives the idea for an article and then solicits the article from the appropriate product department. He works with the assigned author in the product department to tailor the article from the ground up. Story conferences with authors are an important routine.

At times, he comments on and analyzes article outlines that have been submitted. After the author receives an outline analysis by a member of the staff, the author proceeds with the article. When the finished draft of the article reaches the magazine, only editing remains.

Sometimes unsolicited articles are received by the G-E REVIEW. These are often rewritten by the technical journalist.

Another one of his functions is to go into the field, gather information, and write it up as a "General Electric REVIEW Staff Report."

The technical journalist on the staff must also know printing and production techniques, copy fitting, type specifications, techniques of the picture-story, fundamentals of layout, principles of photography, and how to get along with people.

And on the journal, a top-quality staff of production and editorial assistants complement the technical journalist.

PLEASING THE READER

The reader's satisfaction — his gratification — must be a primary concern of the technical journalist. For the readers of a technical article, like a doctor's patients, are critical. They judge the success of an article by their own satisfaction.

Perhaps out of self-defense, the technical reader is wary and selective. Fingering through a magazine, he pauses only if an article arouses his interest and shows promise of giving him information in a readable, understandable, and convenient form. He has to be this way; a greater number of technical publications than ever before vie for his time.

Deciding what kind of articles the reader wants thus consumes a portion of the technical journalist's time. Here, he has a broad field, for technical readers are not as narrow and restricted in their interests as you might suppose.

Badly in need of explaining today are a multitude of devices, applications, techniques, and theories. Many of these, now only in the planning or talking stage, may be tomorrow's realities. Readers also seek to know more about the probable effects of research on technology. Then, too, the human side of technology always interests the technical reader. Issue-by-issue readership surveys conducted by the G-E REVIEW verify this fact.

Subjects of interest are as limitless as the innate curiosity of engineers and scientists themselves. The technical journalist has only to see that they are presented in an understandable and readable form.

But how do you judge the worth of an article? How can you be sure that it is what the reader wants?

The readership survey mentioned before is one way. Such surveys are bound to show up trends of likes and dislikes if they are regularly scheduled. But even without surveys, you can devise other guides.

Looking at an article for the first time, you note its significance and scope. Will it give the reader the whole picture, not just a part? If so, can it be presented to engineers and scientists unfamiliar with its subject matter?

Given an article that meets these requirements, you next decide how it can best be presented. G-E REVIEW editors have formulated these rules. . .

- An article on some phase of electrical or mechanical engineering must be written so that a chemical engineer or a metallurgist can understand it, and vice versa.
- The best expository writing addresses the reader directly. Use the second person "you" when applicable.
- Define or explain specialized terms. The article is for a broad audience of engineers and scientists — the author must not write for the man at the next desk.
- Nothing curbs a reader's interest as much as a conglomeration of formulas, graphs, tables, and the like. Before running them, ask yourself, "Are they really helpful?"

Of course, selecting and presenting a technical article involves more than these few rules. Much of it is intuitive, something you acquire with experience.

With experience comes intuition — the common ground of all technical writers. It's the necessary ingredient for both instruction-book writers and technical journalists.

The technical journalist combines his intuitive skill for writing with a broad background of technology. A writer first and a technologist second, he gives his best of both.

Great avenues of opportunity are opening to him in industry. Because more and more the technologist looks to magazines published in industry for his "graduate learning." Where once universities were the prime cornucopia of new knowledge, industry has of necessity largely taken over the role. Billions of dollars have been and are being invested in research and development facilities of a scope unparalleled. From them come the fundamentals of technology.

But lest the light of industry's efforts be hid beneath a bushel, this new knowledge must be so published and distributed that technologists everywhere will grasp its significance. Through the medium of the industry-published magazine, the technical journalist ideally serves this charge.

STW-TWE Merger Discussed

Left to right: Dr. Francis H. Achard, STW, Secretary-Treasurer — Miss Elsie Ray, TWE, Secretary — Paul S. Kennedy, TWE, Treasurer — Richard Frehsee, TWE, President — Donato C. Ian, STW, 2nd Vice President — Irving Jenks, TWE, Vice President — Dr. Paul H. Flint, STW, Past President — Ronald D. Eames, STW, President.

The officers of both organizations met in New York on May 4, 1956, and reviewed and discussed the objectives and aims of each organization. They agreed that there was compatibility between the two. In the interest of a strong national society dedicated to advancing the profession of technical writers and editors an agreement was reached that a joint proposal be submitted to the membership of both organizations for consideration. This proposal has been submitted to all STW members. Officers of the two organizations attending the merger discussion meeting were: Richard Frehsee, TWE, President; Irving Jenks, TWE, Vice President; Miss Elsie Ray, TWE, Secretary; Paul S. Kennedy, TWE, Treasurer; Ronald D. Eames, STW, President; Donato C. Ian, STW, 2nd Vice President; Dr. Francis H. Achard, STW, Secretary-Treasurer; and Dr. Paul H. Flint, STW, Past President.

Harry Baum

Let's Try Technical Editing

By Harry Baum, Mem. STW
President, New York Chapter, STW
Lead Writer
McGraw-Hill Technical Writing Service
New York, New York

I recently spoke to a project director for one of the larger technical writing companies. "It's almost impossible to find competent men," he complained. "It's so bad that we don't even bother to ask them if they can write any more. If they know what an I.F. transformer is, we hire them."

Only a few years ago technical writing, as a discrete business, didn't exist. But in those few years demand has increased to the point where comments like this are common. As a result, the quality of technical writing has not improved. Perhaps it has even deteriorated. In a field that was never known for lucidity of writing, this is distressing. I think we can, and must, do something about it.

I've often heard it said that the situation is hopeless; that engineers just can't write and that's the end of it. I don't believe that this is true. Engineers can be taught to write, and once they are taught we can look forward to an improvement in technical writing in general. But we can't wait. We need good technical writing now!

TWO METHODS

What, then, can we do to improve technical writing? A look at two of the methods presently used to handle the work may help us to find the answer. In the first, the individual writer is completely responsible for the writing phase of the job. In the second, the technical writer submits his material to a copy editor who makes corrections in English and sees to it that the manuscript conforms to specifications. Each method has its advantages and its faults.

In the first, the writer knows that he has the full responsibility for getting the job approved and must, accordingly, put his best effort into the work. This is fine if his best effort is good enough. Often it isn't. It may be possible, by a weeding-out process, to accumulate a small but extremely capable staff, thereby making this system work. The possibility of obtaining a large staff is, however, almost nil. There just aren't that many good technical writers around.

In the second method, the writer is responsible primarily for the technical content of his material. The copy editor, who is ordinarily paid at a lower rate than the writer, takes over from there. This system permits the use of less skilled writers, but it has two disadvantages. First, the writer tends to become sloppy in his writing. The editor, since he is lower on the pay scale and on the prestige scale, cannot do much to get the writer to improve. The second fault is that the editor is not a technical man. He may be able to find errors in English but he can't spot mistakes in technical logic. In order to turn out a really fine job, the editor should be able to do both.

QUALIFICATIONS OF A TECHNICAL EDITOR

What I propose is that we make more use of "technical editors." By technical editor I don't mean just a technical man who can spot only technical faults. I mean a man who has, in addition to a wide technical knowledge, a fine appreciation for good English; a man who can spot at a glance an overcomplicated or obfuscated sentence and who has the ability to decipher the meaning and transform the sentence into good technical writing. In short, the man I want for this job

is the man who is now your best technical writer. You may hate to give up his services as a writer, but he will enable you to use less skilled men to do the work. You can pick your writers almost entirely on the basis of technical ability. Let your editor take over when he's finished. Of course, the technical editor will be a highly paid man. Because of that we can't afford to waste his time. We will still need the copy editor who will see to it that the manuscript meets the details of the specifications and will give a quick, final check to the English. Any changes he makes will, however, be subject to the approval of the technical editor.

As an additional function, the technical editor could take on the job of educating the writer. This could best be done by scheduling a definite time for the purpose. The teaching could be on a class or on an individual basis or, better still, both. Thus the editor himself will take care of the job of eventually lightening his own load. The editor, because he has a higher degree of competence and is paid more than the writer, should have the writer's respect and should be able to get his cooperation. But just to make sure, have the editor responsible to a higher echelon of management than the writer. If the individual writer is responsible to a "lead writer", see to it that the technical editor is responsible to the "project manager."

In this manner, I feel that we can make the best use of our most skilled men. We may hate to do it, but these men have to be spread pretty thin. Perhaps after they have educated enough people, they can return to the business of actually writing. But until then, let's use them where they can do the most good.

Positions Available

Please mention the **TECHNICAL WRITING REVIEW** *when writing to Advertisers. When answering an advertisement please send all replies to the address given.*

PUBLICATION ENGINEERS — Engineering or Physics graduates needed to gather information for engineering reports. Requires an interest in writing and ability to analyze advanced developments. Opportunity to study latest computer design techniques. Contact D. H. Hammers, International Business Machines Corp., Kingston, New York.

TECHNICAL WRITERS — Writers needed to collaborate with computer personnel in preparing reports and manuals. Engineering or Physics graduates with technical writing experience preferred. Salaries comparable with other engineering activities. Contact D. H. Hammers, International Business Machines Corp., Kingston, New York.

TECHNICAL PUBLIC RELATIONS — Man or woman with writing ability and background in chemistry to prepare articles for press and technical magazines about chemical research activities. Requirements BS in Chemistry or equivalent — Writing experience desirable — salary open. G. L. Foote, Procter and Gamble Co., Cincinnati 17, Ohio.

MEDICAL WRITER — Personable, experienced writer, strong science background desirable. Job entails writing, editing, medical papers, planning clinical studies, contacting physicians. Send resume to Personnel Department, Smith, Kline & French Laboratories, Philadelphia, Pa.

TECHNICAL WRITER — EE preferred. To handle publicity articles, bulletins, and manuals covering products for electric utility systems. Salary open, plus bonus, profit sharing, other benefits. Line Material Company, Milwaukee 1, Wisconsin.

TECHNICAL EDITOR — Require Engineering or Science degree or equivalent and a minimum of two years technical writing and editing experience. Write Mr. Thomas Tierney, Sylvania Electric Products, Inc., 100 First Avenue, Waltham, Mass., or phone TWinbrook 3-9200.

CHALLENGING POSITIONS in Technical Writing await you at Raytheon in the Boston area. Congenial stimulating atmosphere, opportunity for growth, rewarding salaries and periodic reviews. Contact Mr. A. H. Nile, Raytheon Mfg. Co., 190 Willow Street, Waltham, Mass.

TECHNICAL REVIEWERS — Engineering or Physics graduates with a broad enough background to review technical documents and competently criticize with respect to accuracy and completeness of coverage. Contact D. H. Hammers, International Business Machines Corp., Kingston, New York.

TECHNICAL WRITERS for mechanical, electromechanical, and electronic projects. Technical Publications Division, Jackson & Moreland, Inc., Engineers, 600 Park Square Building, Boston 16, Massachusetts.

Positions Available

continued

TECHNICAL WRITER — Must have the ability to understand and translate electro-mechanical principles. Work envolves new concepts of motor control. A good physics-electrical background with an aptitude for clear expression essential. The Warren Manufacturing Company, Inc., Littleton, Mass.

ENGINEER-EDITOR — Graduate engineer, electrical or mechanical preferred. Require man with demonstrated abilities in journalism who can make contacts with ease, follow through with persistence and initiative. H. A. Bergen, Editor, *Industry and Power Magazine,* Commercial Bank Building, St. Joseph, Michigan.

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Tufts Summer Workshop in Technical Writing

After several months of planning and development, nearly all advance arrangements have been completed by the STW Boston Chapter Education Committee in preparing for the Workshop in Technical Writing being inaugurated this July at Tufts University in Medford, Massachusetts. The seven professional technical writers will also collaborate with Dr. Paul H. Flint, Professor of English at Tufts University and a Senior Member of STW, in presenting the Workshop. Each committee member will be responsible for a number of lectures and classroom discussions.

This Workshop is directed primarily toward the needs of both the recent college graduate considering technical writing as a career and the fledgling writer already employed in the field. However, as an added incentive to college students who might be considering technical writing for a future career, three undergraduate credits will be given for successful completion of the course.

Formal class sessions are to be held from 8:30 to 9:40 each weekday morning from July 2nd through the 27th. Lectures will include the role of technical writing in industry and government, organization of material, specifications, parts listing, collection of data, development of text, illustrating, editing and production. Scheduled supplementary sessions will include laboratory exercises in planning, writing and editing; conferences; viewing of publications films; and visits to publication and printing firms in the Boston area. The early morning classes are scheduled for the convenience of Boston area publications supervisors who might wish to incorporate the Workshop into an on-the-job training program for new employes. These trainees will be free to return to their jobs by mid-morning except on days when supplementary sessions are scheduled.

Dr. Flint reports that a large number of inquiries concerning this Workshop have been received from all parts of the country. Because enrollment must be limited to a practical number, early registration is advisable. Students may also enroll in another course for review or extension.

Tuition and fees for this Workshop come to $85.00. Rooms are available in the newest men's and women's dormitories at $7.00 a week. A university cafeteria serves meals at moderate prices but students are free to eat where they wish. Medford is within ten miles of Boston and within twenty miles of several Atlantic bathing beaches.

For further details, write Director, Summer School, Tufts University, Medford, Massachusetts.

Chapter News

Niagara Frontier

The Niagara Frontier Chapter is planning to hold its chapter elections at its regular May meeting. Following the summer recess the chapter will reconvene in the fall with regular informal bi-monthly meetings. The meetings will no longer present formal programs except in special cases. In general, they will be devoted to seminar-type discussions of common technical publication problems. Meeting places will rotate from home to home, with the host in each case being the discussion leader.

Edgewood

A discussion, "Understandability of Military Technical Manuals," was held at the January 17 meeting of the Edgewood Chapter. This subject is of prime importance to members of the chapter as most of the members are military equipment publications editors and writers. At the close of this discussion, all in attendance concluded that in the past ten years the United States Army has made remarkable strides in development, design, and manufacture of new equipment. However, there is an ever-widening gap between the complexity of new equipment and the supply of trained technical personnel and it is logical that adequate military technical manuals must fill this gap. The operator of any piece of military equipment must know three things: how to install, how to operate, and how to maintain. Therefore, it is the job of the technical writer to tell the operator all he should know about the equipment without weighing him down with unnecessary theory of operation.

On February 16, 1956, members of this chapter invited a group of chemical, mechanical, and electrical engineers to discuss "Methods of Improving Technical Writing of Engineers." Conclusions drawn at the end of the discussion were:

1. Most engineers lack the ability and fundamental training to prepare and submit technical data in a clear, logical, and readable manner.
2. Skill in technical writing can be achieved through well planned and conducted in-service training programs and issuance of appropriate technical writing handbooks.

Active members of the chapter conducted a membership campaign during March 1956. Several interested technical persons have indicated they are considering membership in STW. Follow-up contacts will guarantee near-future applications for membership.

At the monthly meeting on March 20, 1956, the Chapter President, Al Jupiter, discussed the present need for improving the quality of technical writing and elevation of the technical writing profession.

Mohawk

Don Herbert, Progress Reporter for the General Electric Television Theater and "Mr. Wizard" of television fame, was the special guest at a dinner meeting of the Mohawk Chapter of the Society of Technical Writers held April 16 at Rensselaer Polytechnic Institute, Troy, New York. Dinner was served for members and guests at the Freshman Dining Hall at 6:45 p.m.

Later that evening, Mr. Herbert addressed STW members as well as members of the Eastern New York Zone of the New York State Association of Science Teachers at RPI's Sage Lecture Hall. In his talk, "Science on Camera," Mr. Herbert described the preparation and techniques of his two television shows — "Mr. Wizard" and the GE Television Theater. His talk was especially interesting to members of the technical writing and teaching professions. Mr. Herbert's specialty of simplifying science so that everyone can understand is directly applicable to all technical writers.

A question and answer period was held after the talk.

The meeting was widely publicized in area newspapers and by mail, with the result that 200 persons attended. Don Herbert also "plugged" STW during an interview over TV station WRGB.

Other chapters of STW interested in sponsoring a similar public meeting with Don Herbert as guest speaker, should forward inquiries to Program Chairman, Mohawk Chapter, through the Editor of the TECHNICAL WRITING REVIEW.

Future meetings of the Mohawk Chapter will stress the "bread and butter" aspects of technical writing. The next regular meeting is scheduled for September, at which time new officers will be elected.

Boston

Boston Chapter officers for the 1956-57 year were installed at the May Dinner and Business Meeting held at the Crystal Room of the Hotel Manger. Because of the large number of Chapter members, a mail vote was held. Ballots were authenticated and counted by the Tellers Committee prior to the Business Meeting. Mrs. Paul H. Flint, Managing Editor of the *Atlantic Monthly,* was guest speaker at this meeting.

The Boston Chapter STW-Tufts University Technical Writing Summer Course Committee has nearly completed its plans for this summer's curriculum. The Terminology Committee reports continued progress and expects to be in a position to publish its findings within a short time.

Winston-Salem

Approximately twenty-five technical writers in the Winston-Salem, North Carolina area have accompanied their applications for membership in the Society of Technical Writers with a request for recognition of a Winston-Salem Chapter, STW. More than the Constitutionally required number of applications for membership have already been approved and it is expected that the request for recognition of the Winston-Salem Chapter, STW will have been approved by the Board of Directors before the printing of this issue of the TECHNICAL WRITING REVIEW. Mr. Roger M. Jones of Western Electric is the current spokesman for this newest of the STW Chapters.

Fort Wayne

A recent notice from Mr. A. L. Brenneman of Fort Wayne, Indiana reports that a signed petition for the recognition of a Fort Wayne Chapter, STW will be submitted to the STW Board of Directors within a few weeks. This action will be the result of several months of activity by technical writers in the Fort Wayne area.

New York

Election of officers for the year beginning September 1956 took place at a meeting of the New York Chapter, May 18, at Columbia University. According to Harry Baum, president, the New York Chapter now has approximately 65 members. The new officers will be:

President — Harold Schleich, Renwar, Inc.

Vice President — Albert Salka, McGraw-Hill Technical Writing Service

Secretary — Fred Grossman, Cushing & Nevell

Treasurer — Emilio Barrone, Design Service Company

Executive Board — Donato C. Ian, Cushing & Nevell, Thomas Grogan, McGraw-Hill Technical Writing Service, and Raynold P. Rossi, Technographic Publications.

The proposed merger of the Society of Technical Writers and the Association of Technical Writers and Editors was discussed at considerable length. A number of members expressed the hope that they would not be called upon to vote on the question until after they had been provided with adequate background information as to the reasons why such a proposal was being put forward.

At a previous meeting the subject of a "Philosophy for Technical Publications" was discussed in a general way for the purpose of pinpointing specific areas which could be discussed in detail at future meetings. In line with this the subject for the next meeting in September will be a discussion on "How Standards Can be Set for Technical Writing." At the conclusion of the meeting the chapter recessed for the summer.

Technical Writer's Lament

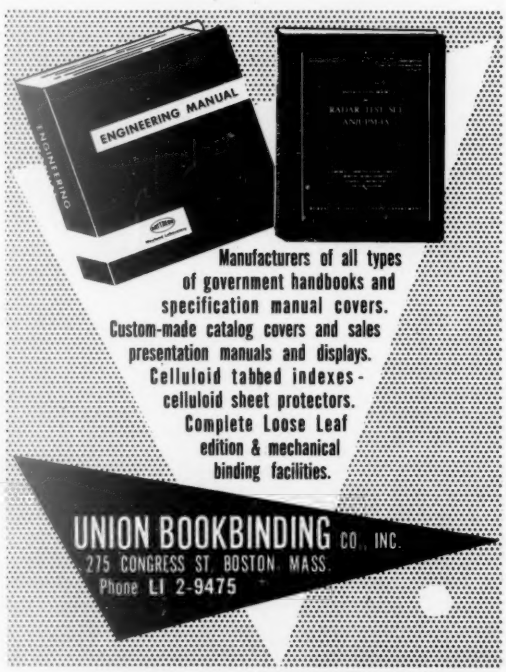
Among life's dying embers,
These are my regrets;
When I'm right no one remembers,
When I'm wrong no one forgets.

Writers Institute at R.P.I.

The Fourth Annual Technical Writers' Institute at Rensselaer Polytechnic Institute will be held in Troy, New York, June 11 through June 15. Nearly 100 technical writers and editors from outstanding industrial firms and government agencies all over the country have registered. Represented this year will be the electronics and electrical manufacturing, chemical and pharmaceutical, aircraft manufacturing, automotive, and communications industries.

The Technical Writers' Institute provides expert counseling, and basic and advanced instruction in the key principles of technical writing. Laboratory practice demonstrates both new and proven techniques used in industrial and governmental situations. The Institute is designed to give each person attending a fuller awareness of the entire field of technical writing, greater assurance and skill in his own ability, and a new perspective of his writing capacities.

Included in the week's schedule are sessions on manuals and instruction books, reports, technical promotional writing, training programs, the use of graphic and illustrative materials, and reproduction and duplication techniques. The course comprises lectures by outstanding authorities from industry, personal consultations with the Institute's staff, group discussions, and laboratory writing exercises.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U of P Conference on Technical Writing

A Conference on Scientific and Technical Writing will be held on the campus of the University of Pennsylvania at Philadelphia, Pa., August 20 through August 24. The purposes are (1) to analyze fundamental concepts involved in the communication of technical information, (2) to provide practical instruction in the preparation of effective technical reports and other technical documents, (3) to provide each participant with a typical style manual and model report format designed to raise the standards of technical exposition, and (4) to promote informal exchange of information and concepts by persons charged with technical writing responsibilities.

The conference is designed for administrators, scientists, engineers, editors, and technical writers who are engaged in the supervision or preparation of reports, manuals, house organs, letters, and other technical documents. The activities will consist of lectures, group discussions, and practical work presented or conducted by Unversity personnel. Technical writers and editors representing industry, the armed forces, and the scientific journals will present lectures.

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Society of Technical Writers

Grades of Membership

GRADE	QUALIFICATIONS	YEARLY DUES
Fellow	A Fellow shall have made an outstanding contribution to the profession of technical writing or to the advancement of the Society.	None
Senior Member	A Senior Member shall have had six years' experience as a technical writer as defined by the Constitution, of which one year shall have been spent in the grade of Member and three years shall have been spent in a responsible supervisory position. A baccalaureate degree from a school of recognized standing shall count as one year of experience. Such education must include a major in science or technology, or a major in English with a minor in science.	$10.00
Member	A Member shall have had three years' experience as a technical writer as defined by the Constitution. A baccalaureate degree from a school of recognized standing shall count as one year of experience. Such education must include a major in science or technology, or a major in English with a minor in science.	$ 7.50
Associate Member	An Associate Member shall be employed as a technical writer as defined by the Constitution.	$ 5.00
Special Member	A Special Member shall demonstrate a continuing interest in the field of technical publications.	$ 5.00
Student Member	A Student Member shall be in attendance at a school of recognized standing and shall demonstrate a continuing interest in the field of technical publications.	$ 1.00

Dues shall become due and payable on October 1 of each year. Fellows and Senior Members are entitled to full voting privileges and the right to hold any office or to serve on any committee of the Society. All Members and Associate Members are entitled to full voting privileges beginning six months after their election to membership. All Members have the right to hold any office of the Society except President and First Vice-President and to serve on any committee.

DEFINITION OF TECHNICAL WRITER

As defined by the Constitution of the Society of Technical Writers, a "technical writer" is one who:

a. as his principal function (1) secures, organizes, and presents scientific or engineering information; or (2) edits, reorganizes, and rewrites such information; or

b. (1) teaches the principles and practices of technical writing, and (2) has had practical experience in technical writing or editing.

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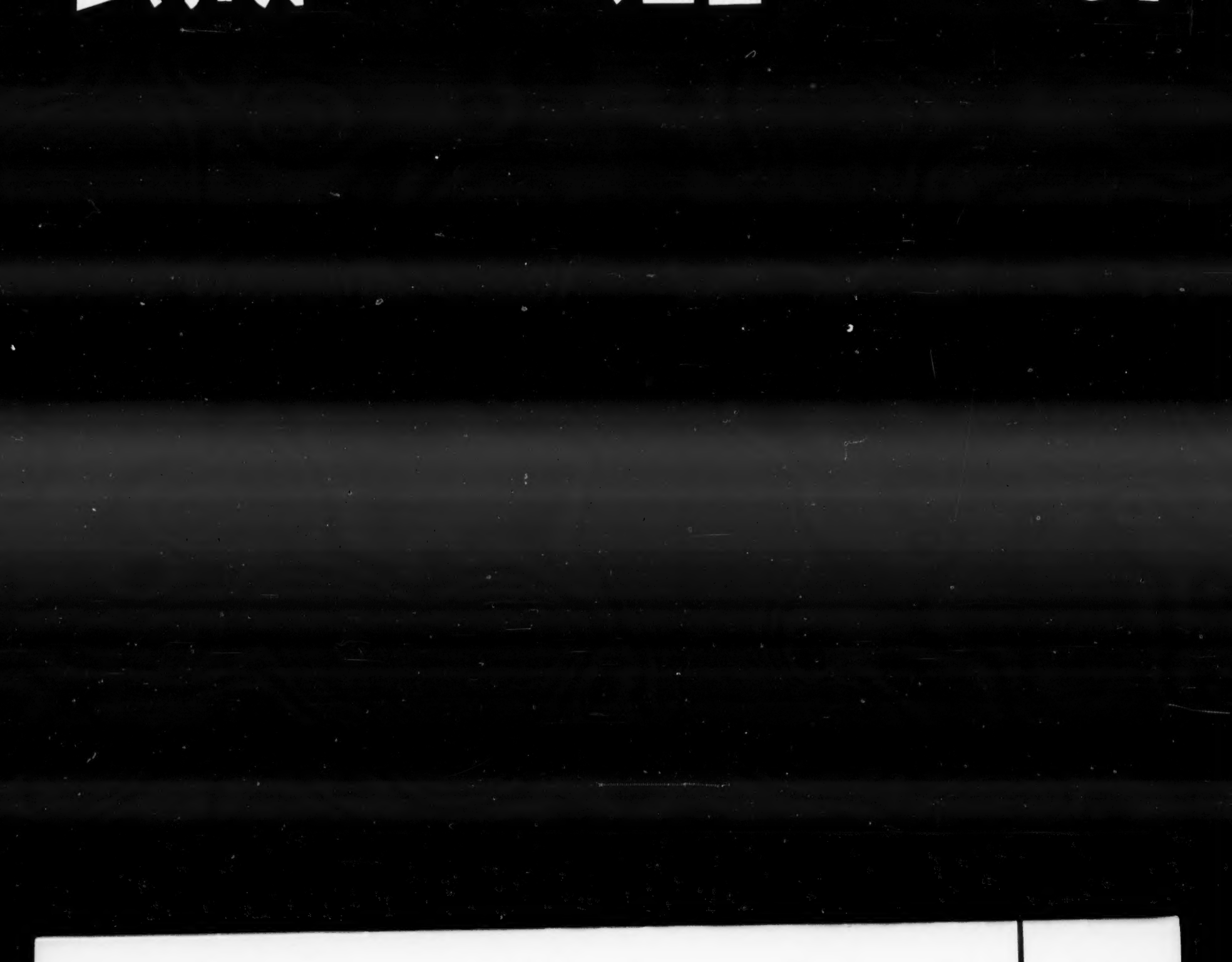
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